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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/732,700	12/11/2000	Shinya Udo	024014-00001	2922

7590

10/01/2002

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EXAMINER

ANYASO, UCHENDU O

ART UNIT

PAPER NUMBER

2675

DATE MAILED: 10/01/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/732,700

Applicant(s)

UDO ET AL.

Examiner

Uchendu O Anyaso

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. **Claims 1-11** are pending in this action.

Claim Rejections - 35 USC ' 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Takita et al* (U.S. 6,151,005) in view of *Johnson* (U.S. 5,625,373).

Regarding **independent claim 1**, and for **claim 11**, Takita teaches an X-driver circuit (100) which delivers a voltage corresponding to the display data to each data line of the liquid crystal panel (column 5, lines 25-34, figures 1, 2 at 100).

Furthermore, Takita teaches a grayscale voltage generating portion by teaching voltage divider circuits (120-0, 206) by which a voltage across the outputs (204, 205) is divided into voltages of 16 levels (column 11, lines 44-60, figure 2 at 120-0, 204-206; see also column 12, lines 14-37, figure 2 at 120-0, 204-206).

Also, Takita teaches a voltage selector portion (201) for selecting any one of the plurality of analog grayscale voltages based on the grayscale data (column 11, lines 63-67 through column 12, lines 1-2, figure 2 at 201).

Furthermore, Takita teaches a plurality of grayscale voltages connected to the grayscale (V0-V4) that supplies the grayscale voltages to the selector portion (201) (figure 2 at V0-V4, 201).

Furthermore, Takita teaches switching portions (202, 203) that delivers high and low potentials on the output bus (column 11, lines 63-67 through column 12, lines 1-2, figure 2 at 202, 203).

However, Takita does not teach how these switching circuits are used during an operation test. On the other hand, Johnson teaches an invention for conducting operation tests in a flat panel display in order to eliminate visual anomalies wherein an error measurement device (22) is connected to a selector switch (12) that provides electrical connection to each column driver (column 3, lines 55-67; column 7, lines 24-30, figures 3, 6 at 12, 22).

Thus, it would have been obvious to a person of ordinary skill in the art to combine Takita and Johnson because while Takita teaches an X-driver circuit (100) which delivers a voltage corresponding to the display data to each data line of the liquid crystal panel (column 5, lines 25-34, figures 1, 2 at 100) with switching portions (202, 203) that delivers high and low potentials on the output bus (column 11, lines 63-67 through column 12, lines 1-2, figure 2 at 202, 203), Johnson teaches an invention for conducting operation tests in a display device in order to eliminate visual anomalies wherein an error measurement device (22) is connected to a selector switch (12) that provides electrical connection to each column driver (column 3, lines 55-67; column 7, lines 24-30, figures 3, 6 at 12, 22). The motivation for combining these inventions would

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have been to eliminate any sought of visual anomalies that may appear in a display system (column 1, lines 4-6).

Regarding **claims 2 and 3**, in further discussion of claim 1, Takita teaches a voltage generating portion (206) which has a ladder resistor portion with a plurality of resistors connected in series and which generates a plurality of analog grayscale voltages through resistance divisions (figure 2 at 206).

Regarding **claims 4-8**, in further discussion of claim 1, Takita teaches switching portions (202, 203) that delivers high and low potentials on the output bus (column 11, lines 63-67 through column 12, lines 1-2, figure 2 at 202, 203).

Regarding **claims 9 and 10**, in further discussion of claim 4, Johnson teaches an invention for conducting operation tests in a flat panel display in order to eliminate visual anomalies wherein an error measurement device (22) is connected to a selector switch (12) that provides electrical connection to each column driver (column 3, lines 55-67; column 7, lines 24-30, figures 3, 6 at 12, 22).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,625,387 to *Moon* for a gray voltage generator for liquid crystal display capable of controlling a viewing angle.

U.S. Patent 5,113,134 to *Plus et al* for an integrated test circuit for display devices such as an LCD.

U.S. Patent 5,627,457 to Ishiyama et al for a method of supplying power to an LCD.

U.S. Patent 6,028,598 to Suyama et al for a liquid crystal driving power supply circuit.

U.S. Patent 6,310,616 to Yanagi et al for a gray scale voltage generating circuit for a display device.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Uchendu O. Anyaso whose telephone number is (703) 306-5934. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras, can be reached at (703) 305-9720.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or
proceeding should be directed to the Technology Center 2600 Customer Service Office
whose telephone number is (703) 306-0377.

Uchendu O. Anyaso

09/28/2002



STEVEN SARAS
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